

Translation of Relevant Parts of Reference 2

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Title: A water-dispersible fibrous sheet, a material reinforced by fibers for a water-curable inorganic material and a method of producing a fiber-reinforced cured material using the same

[Claim 1]

A water-dispersible fibrous sheet comprising a paper made material of (A) fibers for reinforcement, (B) pulp fibers and (C) a water-soluble binder:

[Claim 2]

A water-dispersible fibrous sheet according to claim 1 to which (D) a dispersing agent of the fibers is added.

[Claim 7]

A water-dispersible fibrous sheet according to claim 2 wherein (A) is 20-93 wt.%, (B) is 4.99 to 80 wt.%, (C) is 1.99 to 25 wt.% and (D) is 0.01 to 10 wt.% to the total amount of (A), (B), (C) and (D).

[Section 0001]

[Field of the invention]

The present invention relates to a novel water-dispersible fibrous sheet, a material reinforced by fibers for a water-curable inorganic material and a method of producing a fiber-reinforced cured material using the same. The fibers of the water-dispersible sheet can be uniformly dispersed in water, when the water-dispersible sheet is put in water for short time, which can be used, for example, as supplier of fibers for a reinforcement of a matrix material, a package material for various powder pharmaceuticals to be added into an aqueous medium, a conductive material and a filter.

[Section 0002]

In organic fibers such as glass fibers, carbon fibers, metal fibers, ceramic fibers and various whiskers are combined in a matrix material such as resins, rubbers, metal cements to reinforce them or improve their functions.

[Section 0017]

A fiber-dispersing agent (D) can be added to the water-dispersible fibrous sheet according to the present invention to obtain better separation and dispersion of the fibers. As the fiber-dispersing agent of the component (D), the examples include nonion, anion or cation surfactants, which make the surfaces of the fibers hydrophilic by adhering to the surfaces, micropowders

such as silica fume, talc and quartz sand, which invade between the fibers to effectively separate the fibers like as a ball bearing. Surfactants, in particular nonion surfactants, having HLB of 5 to 25, preferably 8 to 20 are preferable. Those of the general formula (1) are specially preferable:



In the formula (1), R^1 is R^3-CO- , $R^3-CO-N-$, R^3 and R^3-NH- or R^3-S- (R^3 is an aliphatic hydrocarbon group of C_{10} to C_{28}), R^2 is hydrogen atom or a lower alkyl group, A is one or more alkylene groups of C_2 - C_4 , and n is an integer of 5-50.